

CLAIMS

What is claimed is:

1 1. A magnetic head supporting structure, comprising:
2 a magnetic head support structure component having a
3 surface with fewer than 40 inclusions having largest dimension
4 between 0.5 μm and 2 μm , per square millimeter.

1 2. A magnetic head supporting structure comprising:
2 a magnetic head support structure component having a
3 surface with fewer than 40 inclusions having hardness 4 or
4 higher on Mohs' Scale and having largest dimension between 0.5
5 μm and 2 μm , per square millimeter.

1 3. A magnetic head supporting structure comprising:
2 a magnetic head support structure component comprising
3 remelted metal.

1 4. The magnetic head supporting structure of claim 3
2 wherein the component comprises a swage mount.

3 5. The magnetic head supporting structure of claim 3
4 wherein the component comprises a magnetic head suspension
5 spring.

1 6. The magnetic head supporting structure of claim 3
2 wherein the component comprises a magnetic head actuator arm.

1 7. The magnetic head supporting structure of claim 3
2 having a surface with fewer than 40 inclusions having largest
3 dimension between 0.5 μm and 2 μm , per square millimeter.

1 8. The magnetic head supporting structure of claim 3
2 having a surface with fewer than 40 inclusions having hardness 4
3 or higher on Mohs' Scale and having largest dimension between
4 0.5 μm and 2 μm , per square millimeter.

1 9. A magnetic recording head supporting structure
2 comprising:
3 a magnetic head support structure component having one or
4 more regions subjected to plastic deformation during
5 manufacture, at least one of said regions comprising remelted
6 metal.

1 10. The magnetic head supporting structure of claim 9
2 having a surface in at least one of said regions having fewer
3 than 40 inclusions having largest dimension between 0.5 μm and 2
4 μm , per square millimeter.

1 11. The magnetic head supporting structure of claim 9
2 having a surface in at least one of said regions having fewer

3 than 40 inclusions having hardness 4 or higher on Mohs' Scale
4 and having largest dimension between 0.5 μm and 2 μm , per square
5 millimeter.

1 12. A method of fabricating a magnetic head supporting
2 structure comprising:

3 a step for reducing inclusions having largest dimension
4 between 0.5 μm and 2 μm and having hardness of 4 or higher on
5 Mohs' Scale.

1 13. A method of fabricating a magnetic head supporting
2 structure comprising:

3 reducing inclusions having largest dimension between 0.5 μm
4 and 2 μm ; and

5 inducing plastic deformation in one or more regions of the
6 magnetic head supporting structure.

1 14. The method of claim 13 wherein reducing inclusions
2 includes remelting a solid volume of metal.

1 15. The method of claim 13 wherein said inclusions are
2 reduced to a point where fewer than 40 inclusions having
3 hardness 4 or higher on Mohs' Scale and having largest dimension
4 between 0.5 μm and 2 μm are present per square millimeter of the
5 surface of the magnetic head supporting structure in at least
6 one of said regions.

1 16. The method of claim 14 wherein the remelting is
2 accomplished in the presence of a slag comprising a non-metal
3 oxide.

1 17. The method of claim 14 wherein the remelting is
2 accomplished in an evacuated atmosphere.

1 18. The method of claim 16 wherein the non-metal oxide
2 comprises calcium bifluoride.

1 19. A method to manufacture a swage mount for a magnetic
2 recording head support structure, comprising:
3 remelting stainless steel to reduce inclusions,
4 rolling the stainless steel to an initial thickness between
5 0.1 mm to 0.5 mm,
6 stamping and forming the rolled stainless steel into the
7 shape of a swage mount, and
8 heat treating the resulting part.

1 20. The method of claim 19 wherein the heat treating
2 includes annealing.

1 21. The method of claim 19 wherein the remelting is
2 electroslog remelting.

1 22. The method of claim 19 wherein the remelting is
2 accomplished in an evacuated atmosphere.

1 23. The method of claim 19 wherein said inclusions are
2 reduced to a point where fewer than 40 inclusions having
3 hardness 4 or higher on Mohs' Scale and having largest dimension
4 between 0.5 μ m and 2 μ m are present per square millimeter of the
5 surface of the swage mount.

1 24. The method of claim 21 wherein the remelting is
2 accomplished in the presence of a non-metal oxide.

1 25. The method of claim 23 wherein the non-metal oxide
2 comprises calcium bifluoride.